



## TRANSFORMATION TRENDS—24 JUNE ISSUE

**Project Alpha Sets Priorities**—JFCOM's Project Alpha initiative, whose objective is to advance new ideas quickly across DoD entities, is focusing on six near-term areas. These include swarming UAVs; hard-to-get signals from SAMs; pattern recognition for tracking time critical targets; and new medical operations. Emerging areas of interest include Chaordic Warmaking and space effects applications.

**Science and Technology Counter-Terrorism Strategy**—An independent panel of the National Academies of Science recommends establishing a Homeland Security Institute to assess and determine the relevant value of various technologies and technical solutions to thwarting terrorism. The institute should be designed as a not-for-profit entity operated by a contractor with the Office of Homeland Security being its primary customer.

**New Science of Networks**—All organisms or even systems can be seen as part of an intricate network argues Albert-Laszlo Barabasi in his new book called "Linked: The New Science of Networks," according to a review in the 23 June New York Times. While networks are comprised of nodes, not all nodes possess an equivalent scale—these are dubbed "scale free" by the author. Examples of scale free networks include the electrical power grid, nervous systems of living creatures, and companies that are trading partners. Barabasi's research also talks about the Achilles Heel of networks, in that critical hubs form over time, which in turn could expose the network to disruption if taken down.

**National Terrorism Assessment Center**—Sen. Arlen Specter, R-Pa., is submitting a bill to create a new National Terrorism Assessment Center within the Dept. of Homeland Security. The center will have access to all terrorist-related intelligence data resident in the CIA, DIA, FBI, and NSA. In addition, it will also ensure Customs, INS and Coast Guard data bases are interoperable. Under Specter's bill, a senior FBI official will lead the NTAC, while the deputy will come from CIA.

**New Wireless Technologies Emerging**—Four new technologies, smart antennas; mesh networks; ad hoc architectures; and ultra wideband transmissions, are poised to "shake up the wireless world," according to a technology survey in the 22 June Economist magazine. Ad hoc networks offers huge military utility since it allows multiple devices to essentially act as routers for other systems. Moreover, the network is "infrastructureless" meaning there is no enterprise that must be created.

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**DSB Summer Studies**—Missile defense and countering terrorism are the Defense Science Board’s summer studies. Larry Welch and William Graham will lead the missile defense study. Ted Gold and Don Latham will direct the countering terrorism panel. In addition, Art Money, former DoD C3I czar; Sam Adcock of EADS; and Michael Bayer, have now joined the DSB.

**Conventional Weapons Trends**—Lasers, radio-frequency, smoke and obscurants, and non-lethal and anti-material concepts, and electro magnetic or thermal are all emerging as near to far terms threats in the conventional weapons realm, according to an unclassified DIA briefing. An anti-electronics weapon could be widespread by 2015 and pose serious concerns for medical equipment as well. Super magnets could pose still unknown health risks to personnel exposed to high magnetic fields.

**Defense and Economics**—Noted economist William Baumol argues the nation is investing too heavily in defense today and that weapons bought today will be obsolete before a new competitor emerges in the future, according to an article in the 24 June Business Week. Baumol argues that some portion of defense spending should be invested “in education, basic research and other foundations of future economic growth.” Likewise, too restrictive a move into homeland security could stifle “innovation and economic strength” and “disrupt the flow of scientific ideas.”

**Sea Trial Initiative to Speed Navy Transformation**—A new effort, dubbed Sea Trial, by CNO Vern Clark, will streamline and integrate the service’s experimentation efforts. Adm. Robert Natter, commander of Fleet Forces Command, will lead this effort. “Sea Trial puts the fleet at the heart of innovation and provides a mechanism to more readily capture fruits of their operational excellence and experimentation,” Clark said in a 12 June speech at the Naval War College. Sea Trial will complement other initiatives called Sea Warrior and Sea Enterprise that will serve to transform the Navy “in very impressive ways.”

**Technology and Human Dimensions**—Getting the most from technology only occurs when the “emotional, cognitive, psychological, and social factors” of how people will use it are understood, according to a paper from Cap Gemini Ernst & Young’s Business Innovation Center. The paper argues that increasingly the value of information technology lies “in enabling groups of humans (networks, if you will) not just individuals to work more effectively.” To ensure that technology is used and it spurs innovation it cannot be divorced from users.

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**Is Transformation Dead?**—Efforts to transform the U.S. military “died” in the wake of the 11 Sept. terrorist attacks having been killed by the “Iron Triangle” of Congress, the defense industry and the Pentagon bureaucracy, argues a new report from the Cato Institute called “Empty Promises.” The increases in defense spending in the 2003 budget have “merely slathered the Pentagon with additional money instead of insisting on the massive reallocation of spending needed to effect a transformation,” the study says. The F-22 should be cancelled and the money used to fund a new bomber; Navy carriers should be reduced and the F/A-18 E/F cancelled in favor of a navalized version of the F-117; Army divisions should be cut and armored divisions put into the National Guard; the Marines V-22 should be terminated and the service should focus on amphibious raids, the study says.

**Knowledge Management Unlocked**—People still make the difference in terms of turning information into real knowledge, argues an op-ed in the 9 June New York Times, and the lesson is the World Trade Center attack. So many traders died, along with their secure passwords, that companies resorted to co-workers banding together and detailing peoples lives in order to unlock passwords to critical systems. It is only when people connect the dots using different pieces of information that true knowledge can be attained.

**NOTE: Transformation Trends is provided as a means to highlight new issues in defense and commercial realms to key decisionmakers and in no way constitutes endorsement or official recognition of any idea, concept or program.**